

picoLink series

FOE-871p
Fiber Optic to HD/SD
Converter
Guide to Installation and Operation

M734-9900-102
17 Mar 2009



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Radio Frequency Interference and Immunity

This unit generates, uses and can radiate radio frequency energy. If the unit is not properly installed and used in accordance with this guide, it may cause interference with radio communications. Operation with non-certified peripheral devices is likely to result in interference with radio and television reception. This equipment has been tested and complies with the limits in accordance with the specifications in:

FCC Part 15, Subpart B
CE EN50081-1:1992
CE EN50082-1:1992

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GUIDE TO INSTALLATION AND OPERATION

1 FOE-871p Fiber Optic to HD/SD Converter

1.1 Introduction

The FOE-871p is a compact stand-alone solution receiving Standard Definition digital video (SMPTE 259M SDI 270 Mbps) as well as High Definition signals (SMPTE 292M up to 1.5 Gbps) through an SMPTE 297M fiber optic link. When combined with the FEO-871p, the solution reaches distances up to 15 km (depending on the optical link) on single mode fiber, allowing transparent digital transmission for short haul applications. The FOE-871p can be used stand-alone or can be mounted in a special rack tray that allows the picoLink fiber converters to become an optical-to-electrical patch field. The fiber picoLink converters' flexible packaging makes them ideal for both temporary and permanent, intra and inter-facility fiber optic links.

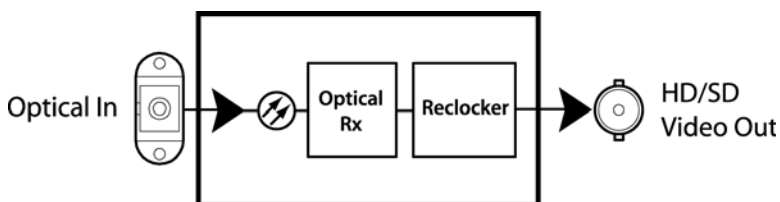


Figure 1: FOE-871p functional block diagram

1.2 Features

- Supports any serial data rate from 5 Mbps (ATSC) to 1.5 Gbps (HD SDI)
- Reclocked serial digital video from 143 Mbps to 1.5 Gbps
- Supports SMPTE 259M, SMPTE 292M, SMPTE 305, SMPTE 310M, DVB-ASI
- Supports single mode fiber optic @ 1310 nm and 1550 nm
- Status LED indication
- Cost effective solution, compact and lightweight
- Stand-alone mounting
- Optional rack mount tray turns picoLink into optical patch field

2 Overview

Figure 2 illustrates the FOE-871p's major parts and their locations. The optical fiber input is connected using a single-mode SC connector, and the HD/SD digital video output appears on a BNC connector. Error status is provided by the status LED. Finally, the power source is connected to the lockable power connector.

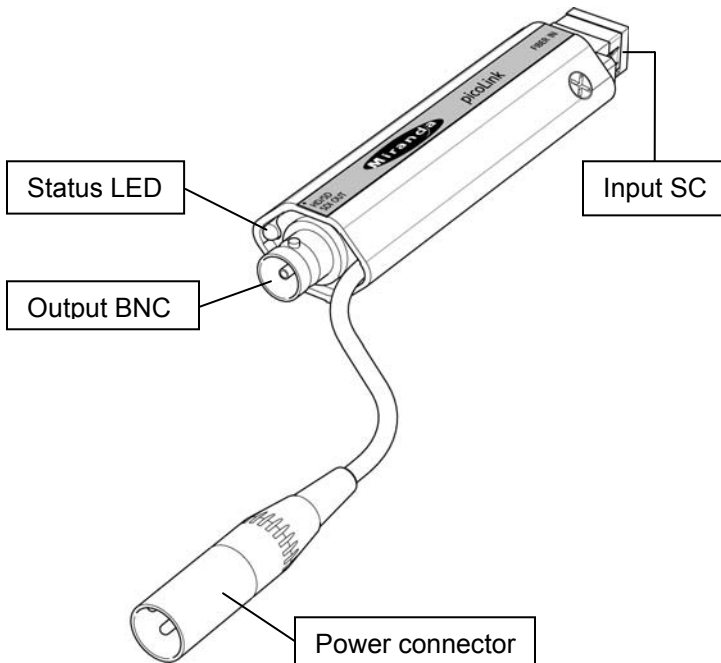


Figure 2: Overall view of the FOE-871p

3 Installation

3.1 Power Supply

The LKS-WSU power supply provides power to the FOE-871p for 110 V and 220 V operation. The power supply is a regulated +5 VDC@2.4 A power source. The FOE-871p employs a mini XLR-3 connector for its power needs. Figure 3 shows a detailed pinout of the male connector.

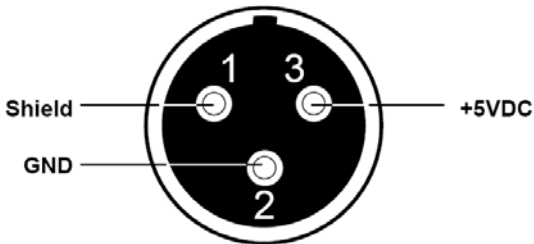


Figure 3: Power connector pinout

3.2 *Fiber Input*

Connect an optical signal to the SC connector labeled FIBER IN.

Class 1 laser product



Hazards for the Operator

Active optic fibers emit radiation invisible to the naked eye. Never look directly at the end of an active optic fiber.

Caution

Although not considered overly dangerous for the eye, avoid accidental exposure to the optical beam emitted from the fiber optic cable connected to the FOE-871p input.



3.3 *HD/SD Digital Video Output*

A reclocked high-definition or standard-definition digital video signal appears on the BNC labeled HD/SD SDI OUT.

- The high-definition serial digital output signal conforms to the SMPTE 292M standard.
- The standard-definition serial digital output signal conforms to the SMPTE 259M-ABCD standard or the DVB-ASI (270 Mbps).

4 Operation

There are no operating controls on the FOE-871p.

4.1 Status LED

The bi-colored status LED, located next to the BNC output connector, is provided to identify any input errors. The following situations are flagged:

Off:	No DC power
Green:	Laser light detected with valid SDI / HD-SDI signal
Red (steady):	Laser light detected but no valid SDI / HD-SDI signal
Red (blinking):	No laser light detected

5 Specifications

Optical Input

Signal:	Optical Laser
Wavelength:	1310 nm and 1550 nm
Sensitivity:	-16 dB
Fiber type:	Single Mode
Connector:	Optical SC/PC

Electrical Output

Signal:	SMPTE 259M-A-C (143, 270 Mbps) SMPTE 292M (1.485 Gbps and 1.485/1.001 Gbps) SMPTE 305M (SDTI) SMPTE 310M (5Mbps to 40 Mbps) DVB-ASI
Return loss:	>15 dB up to 1.485 Gbps
Jitter:	<0.2UI
Connector:	75 Ω BNC (1)

General specifications

Processing delay:	3 ns @ 1.485 Gbps
Power voltage:	5VDC
Consumption:	2 W
Temperature operating range:	0 – 30° C